WAVECOM

M2M MARKET

OVERVIEW

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(VP Business Development)

ETSI M2M Workshop

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Cellular Beyond Mobile Phones

Home & Security
(Alarms, Surveillance, …)

~5%

Automotive
(Firsts Mount & Aftermarket)

~3%

Control & Monitoring
(Signs, industrial, …)

~3%

Metering
(Electricity, Water, Gas)

~5%

Sales & Payment
(EMV, parking, kiosks, printers, …)

~8%

Mobile Professional
(Fixed Wireless Terminals)

< 1 %

Penetration rates of wireless remain low

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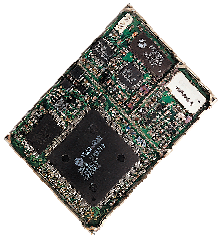
Technology trends



wismo Flex

WISMO 1	QUIK 24XX	PAC & FLEX	QUIK 26XX	WIRELESS MICROPROCESSOR
500+ cpts	**120+ cpts**	**100+ cpts**	**80+ cpts**	**60+ cpts**
• 64x46x8 (23.5 cm^3) • Single Band GSM • 900, 1800 and 1900	• G1 : 58x32x6,5 (12 cm^3) • G2 : 58*32*3.9 (7 cm^3) • Dual Band GPRS cl10 • Open AT® v1.x	• 33x25x5 (4 cm^3) • 700 mm^2 ref design • Quad Band GPRS cl10 • Own baseband • Open AT® v2.x DOTA	• 40*32*3,75 (5 cm^3) • GPRS/EDGE cl10 • Open AT® v3.x Real Time	• Announced April 6, 2006 • High performance embedded processing • ARM 46 core • Voice, data and internet connectivity
1st Wireless Module	1st in Auto	1st M2M OS 1st CMS Module	1st Real Time OS	Processing and RF in a single component
1996	1999	2002	2005	2006

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Example: Automotive

- Well known examples are PSA RT3 and RT4, Volvo's On-call and BMW's Assist,
- When airbags are deployed (i.e. a crash) an embedded wireless module with GPS sends position to emergency services and authorities over cellular wireless network
- It is *the* next step in automotive safety
- "Golden hour" after an accident when the likelihood of survival of an injured person is highest
- e-Call is an EU initiative which targets enabling all new cars with automatic SOS capability
- Other automotive applications include theft recovery, pay-as-you drive insurance, and handsfree call with improved quality
- Tipping Point: Germany has just signed the e-Call MOU, which we believe is the tipping point for a 20x market growth in Europe alone over the next five years.

Cellular Wireless Benefits: Global, mobile, secure, & increasingly low cost

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Example: Alarm Systems

- Previously most alarm systems deployed in consumer and commercial residences used phone lines to connect to the security service
- Unfortunately, especially for home use, these alarms are fairly easy to neutralize by cutting the phone line
- About three years ago alarm manufacturers started offering wireless, in addition to a conventional phone line, as a backup in case the phone line is cut
- Then they started adding services, such as sending a text to your mobile phone when the alarm goes off
- Cellular wireless is rapidly becoming the preferred communication technology and will be on almost every alarm in the future
- Tipping Point: Wireless is already becoming standard, but in the US there is further growth as AMPS technology is being discontinued in 2008, creating an increasing demand for 4.5M over the next five years.

Cellular Wireless Benefits: Global, mobile, secure, & increasingly low cost

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Example: Automatic Meter Reading (AMR)

Cellular Wireless Benefits: Global, mobile, secure, & increasingly low cost

- Most electric meters are read infrequently, and a fixed price over the period used to calculate cost
- Demand for energy is usually cyclical, with peaks and valleys daily
- Charging different rates for different times improves revenues and also causes consumers to adjust behaviour
- Smoothing consumption peaks and valleys allows for more optimum infrastructure use and future capacity planning
- Increasing regulation for AMR
- Cellular wireless is a particularly easy and secure way to implement AMR
- Tipping Point: ESMIG, the European meter consortium, will take on standardization as a key topic, which we believe will drive a 10x increase in volumes over the next five years.

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Example: Point of Sale Devices

- Electronic payment devices have historically been connected through a fixed phone line, other than for taxis which need cellular wireless because they are truly mobile
- With the decreasing costs of cellular wireless (e.g. GPRS technology), however, the cost of wireless is not much more than the cost of a conventional phone line
- Cellular wireless provides mobility convenience, high security, and always on capability (less waiting than phone line), so a better experience
- Tipping Point: As the EMT-PoS market consolidates, several vendors are redesigning around pure-wireless solutions that will decrease the price for a wireless terminal by 2-3x!

Cellular Wireless Benefits: Global, mobile, secure, & increasingly low cost

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What we have to solve

Issue: Changes in IP connectivity set-up
Action: Settings nedd to be re-configured

Issue: Battery Level consumption too high
Action: Adjust boost mode

Issue: Network evolution
Action: *Requires FOTA upgrade*

COMMUNICATION MANAGEMENT

Issue: Fraud alert:
Action: Lock the device

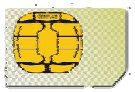
APPLICATION MANAGEMENT

Issue: Identifies full memory
Action: *Requires device reboot*

Issue: Roaming
Action: *Needs remote traces*

Issue: Launch new Service
Action: Requires installation onto device

WIRELESS DEVICE MANAGEMENT



Issue: Turn machine on
Action: Requires SIM activation

Issue: Identify weak coverage
Action: Requires switch to alternate operator

Issue: Better airtime cost control
Action: Requires communication usage reporting

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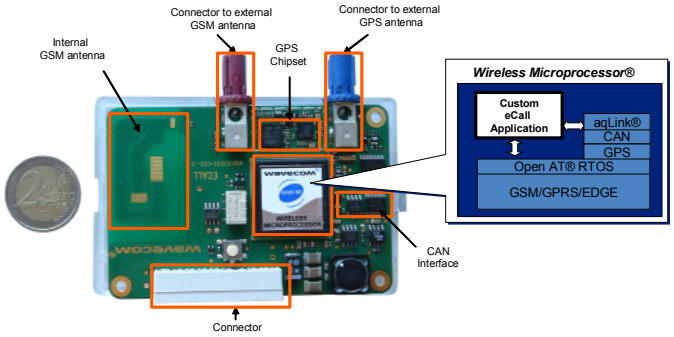
Key factors of success

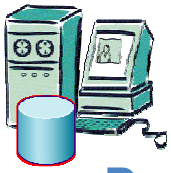
1. *Lowest total cost of ownership*
2. *Ease of use*



OpenAT®
Software Suite

Wireless
Microprocessor®
Hardware

inSIM®
Embedded SIM



Remote
Device Mgmt.
Services

3. *Investment protection*
4. *Sustained leadership*

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About the SIM

- Designed for consumer service portability, but used by our joint customers in industrial grade product designs in which the SIM does not get moved or changed.

- It's therefore a business enabling obstacle that is also:
  - Susceptible to harsh environments of

  - Lifetime limited
    - A phone lasts ~2 years, an electricity meter more than 15!
  - Costly to manage inventory and secure storage prior to shipping

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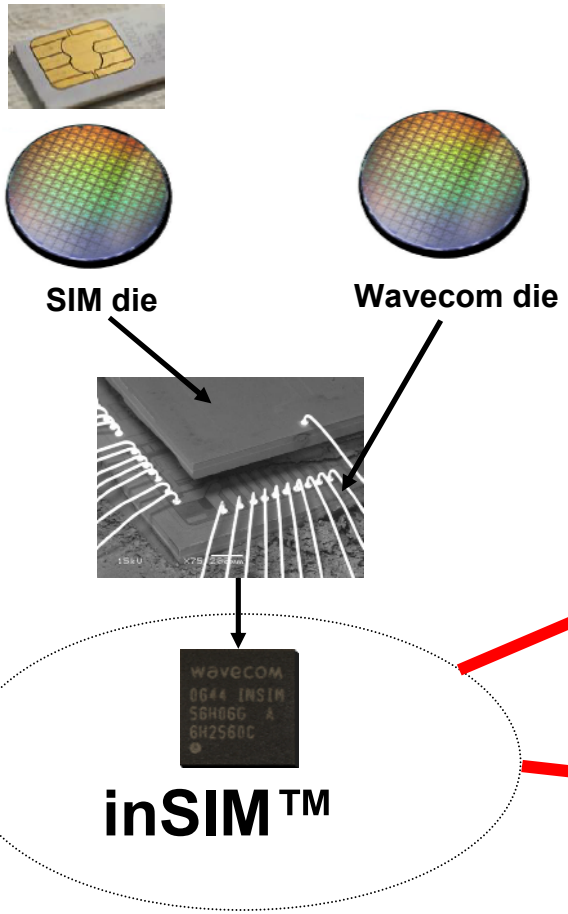
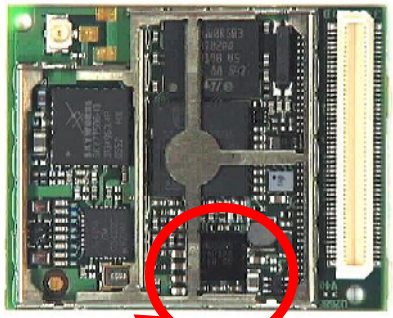
What is inSIM™ ?

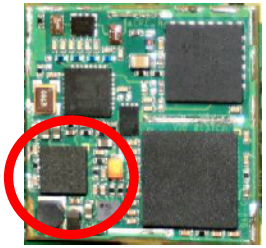
A SIM in chip embedded inside the Wireless CPU®



Q26 series



WMP series



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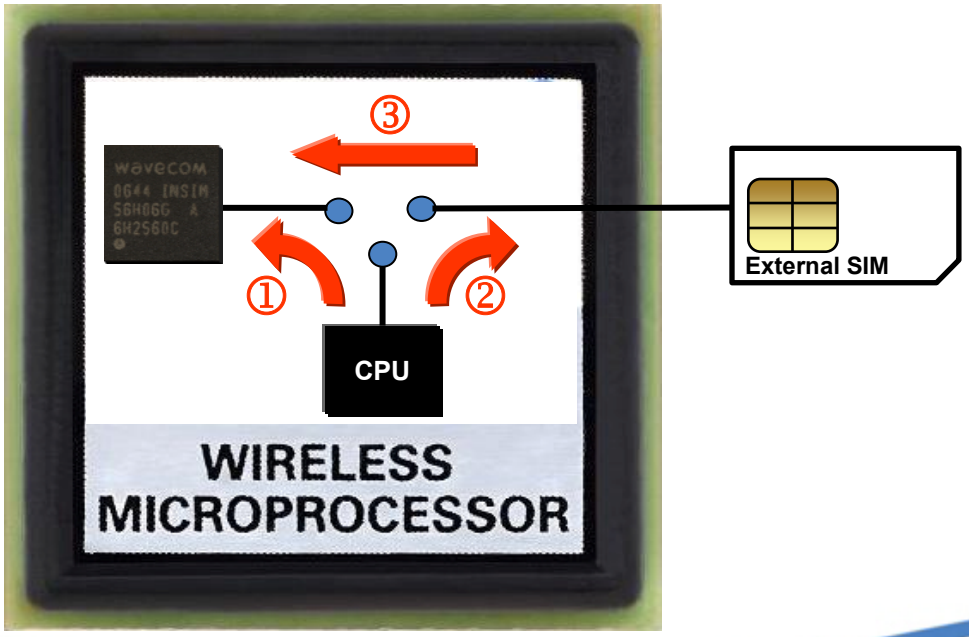
Switch modes – using an external SIM is still possible

- Switch modes
  - ① inSIM™ user mode (inSIM™ <-> CPU)
  - ② External SIM user mode (Ext SIM <-> CPU)



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inSIM® 100% designed for M2M market with 4 key benefits

1. Module-inSIM® package fully certified and qualified
   - Tested at the Wavecom manufacturing
2. Designed for M2M customers with zero impact on their application
   - With alternative embedded SIM solutions, customers have to support different form factors coming form card makers (no standard today)
   - inSIM® has no size impact on customer application
3. Reduced logistics issues
   - With alternative SIM solutions, customers have to manage the SIM chip logistics (physical management, soldering on the application, RMA)
4. On the field inSIM® subscription management through Wavecom IDS portal
   - Real time visibility and management on deployed devices and associated subscriptions

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